

Abstract

Apparatus (preferably portable) enabling a felled tree stem or log (2), tapped at one end in order to generate an acoustic wave, to have its stiffness characterised echo data both sensed and analysed. The analysis is with best fit recognition procedure and/or one that emphasises high harmonics to determine fundamental frequency related to acoustic speed which is indicative of the stiffness characteristics of the tree stem or log. The apparatus uses an accelerometer pressed compliantly against an end of the tree stem or log to detect reflections from the other end after impacting the first end. The accelerometer is compliantly mounted in a sensing head (1) connected by a flexible link to a housing carrying processing and display means (4, 5, 6). Also disclosed is a method of cutting a stem (2) into logs of predicted speeds by establishing a function which represents the nature of speed variation with distance along the stem characteristic for a species and locality. The average speed along a stem and the speed function are used to compute the likely speed at points along the stem, then marking and routing logs cut from the stem according to their speed.

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